This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A method for parallel compression and decompression of a bitstream, comprising:

separating a bitstream into a plurality of components of a pixel;

encoding the components using a compression algorithm;

constructing packets from the encoded components, where at least one packet is associated with each encoded component and the at least one packet comprises header information and encoded data and wherein the header information comprises a length;

combining the packets into a packetized encoded bitstream;

separating packets from the packetized encoded bitstream using the header information;

decoding packets in a parallel by distributing the packets to decode units in an order to reconstruct the digitized graphic or video frame and using a decompression algorithm to recover the encoded data;

constructing the plurality of components from the recovered encoded data; and

combining the plurality of components to recover the bitstream.

2. (Original) The method of Claim 1, wherein the bitstream is a digitized graphics or video frame.

3. (Currently Amended) A method for parallel compression and decompression of a bitstream, comprising:

separating a bitstream of a digitized graphic or video frame into a plurality of components by separating the graphics or video frame into separate lines;

encoding the components using a compression algorithm;

constructing packets from the encoded components, where at least one packet is associated with each encoded component and the at least one packet comprises header information and encoded data and wherein the header information comprises a length;

combining the packets into a packetized encoded bitstream;

separating packets from the packetized encoded bitstream using the header information;

decoding packets in a parallel by distributing the packets to decode units in an order to reconstruct the digitized graphic or video frame and using a decompression algorithm to recover the encoded data;

constructing the plurality of components from the recovered encoded data; and

combining the plurality of components to recover the bitstream.

4. (Original) The method of Claim 2, wherein combining the plurality of components to recover the bitstream comprises recovering the digitized graphics or video frame for display.

5. (Original) The method of Claim 1, wherein encoding the components using a compression algorithm comprises encoding using a lossless compression format.

6. (Original) The method of Claim 1, wherein decoding packets in parallel using a decompression algorithm comprises encoding using a lossless compression format.

7. (Original) The method of Claim 1, wherein constructing packets from the encoded components comprises constructing variable-length packets.

8. (Previously presented) The method of Claim 7, wherein the header information of the at least one packet further comprises an alignment.

9. (Canceled)

10. (Original) The method of Claim 1, wherein constructing packets from the encoded components comprises constructing fixed-length packets.

11. (Canceled)

12. (Currently Amended) A method for parallel compression and decompression of a bitstream, comprising:

separating a bitstream into a plurality of components of a pixel;

encoding the components using a compression algorithm;

constructing packets from the encoded components, where at least one packet is associated with each encoded component and the at least one packet comprises header information and encoded data and wherein the header information comprises a length and a tag;

combining the packets into a packetized encoded bitstream;

separating packets from the packetized encoded bitstream using the header information;

decoding packets in parallel by distributing packets to separate decode units distributing the packets to decode units in an order to reconstruct the digitized graphic or video frame based upon the tag and using a decompression algorithm to recover the encoded data;

constructing the plurality of components from the recovered encoded data; and

combining the plurality of components to recover the bitstream.

13. (Currently Amended) A system for parallel compression and decompression of a bitstream, comprising:

an encoder system comprising:

a plurality of encode units operable to receive components of a pixel separated from a bitstream and to encode the components using a compression algorithm;

the encode units further operable to construct packets from the encoded components, where at least one packet is associated with each encoded component and the at least one packet comprises header information and encoded data and wherein the header information comprises a length; and

a multiplexer coupled to the encode units, the muliplexer operable to combine the packets into a packetized encoded bitstream; and

a decoder system comprising:

a feeder operable to separate packets from the packetized encoded bitstream;

a plurality of decode queues, the feeder further operable to distribute the packets in an order to the decode queues to reconstruct the digitized graphic or video frame;

a plurality of decode units each associated with one of the decode queues, the decode units operable to decode packets using a decompression algorithm to recover the encoded data and to reconstruct the components; and

a demultiplexer coupled to the plurality of decode units the demultiplexer operable to combine the plurality of components to recover the bitstream.

14. (Original) The system of Claim 13, wherein the bitstream is a digitized graphics or video frame.

15. (Currently Amended) A system for parallel compression and decompression of a bitstream, comprising:

an encoder system comprising:

plurality of encode units operable to receive a plurality of components comprising separate lines separated from a bitstream from a digitized graphics or video frame and to encode the components using a compression algorithm;

the encode units further operable to construct packets from the encoded components, where at least one packet is associated with each encoded component and the at least one packet comprises header information and encoded data and wherein the header information comprises a length; and

a multiplexer coupled to the encode units, the muliplexer operable to combine the packets into a packetized encoded bitstream; and

a decoder system comprising:

a feeder operable to separate packets from the packetized encoded bitstream;

a plurality of decode queues, the feeder further operable to distribute the packets in an order to the decode queues distributing the packets to decode units in an order to reconstruct the digitized graphic or video frame;

a plurality of decode units each associated with one of the decode queues, the decode units operable to decode packets using a decompression algorithm to recover the encoded data and to reconstruct the components; and

a demultiplexer coupled to the plurality of decode units the demultiplexer operable to combine the plurality of components to recover the bitstream.

16. (Original) The system of Claim 14, wherein the demultiplexer combines the plurality of components to recover the digitized graphics or video frame for display.

17. (Original) The system of Claim 13, wherein the encode units use a lossless compression format for the compression algorithm.

18. (Original) The system of Claim 13, wherein the decode units use a lossless compression format for the decompression algorithm.

19. (Original) The system of Claim 13, wherein the encode units construct variable-length packets.

20. (Previously presented) The system of Claim 19, wherein the header information of the at least one packet further comprises a size and an alignment.

21. (Canceled)

22. (Currently Amended) A [The] system [of Claim 20] for parallel compression and decompression of a bitstream, comprising:

an encoder system comprising:

a plurality of encode units operable to receive components of a pixel separated from a bitstream and to encode the components using a compression algorithm; the encode units further operable to construct packets from the encoded components, where at least one packet is associated with each encoded component and the at least one packet comprises header information and encoded

data and wherein the header information comprises a length, a size and an alignment; and

a multiplexer coupled to the encode units, the muliplexer operable to combine the packets into a packetized encoded bitstream; and

a decoder system comprising:

a feeder operable to separate packets from the packetized encoded bitstream, wherein the feeder comprises:

an input queue operable to receive the packetized encoded bitstream;

a multiplexer coupled to the input queue;

a register coupled to the multiplexer;

a demultiplexer coupled to the register and to the decode queues; and

a left shift unit coupled to the register and to the multiplexer;

a plurality of decode queues, the feeder further operable to distribute the packets in order to the decode queues;

a plurality of decode units each associated with one of the decode queues, the decode units operable to decode packets using a decompression algorithm to recover the encoded data and to reconstruct the components; and

a demultiplexer coupled to the plurality of decode units the demultiplexer operable to combine the plurality of components to recover the bitstream.

23. (Original) The system of Claim 13, wherein the encode units construct fixed-length packets.

24. (Original) The system of Claim 23, wherein the header information of the at least one packet comprises a tag.

25. (Original) The system of Claim 24, wherein the feeder distributes the packets to separate decode queues based upon the tag.

26. (Original) The system of Claim 24, wherein the feeder comprises an input queue operable to receive the packetized encoded bitstream.

27. (Previously presented) A method for parallel compression of graphic data, comprising:

separating a bitstream into a plurality of scan lines;

encoding each scan line into a plurality of blocks using a lossless compression algorithm; and

constructing at least one packet containing at least one encoded block wherein each encoded block comprises encoded deltas wherein the deltas represent differences from a preceding block.

28. (Previously presented) The method as recited in claim 27 wherein the lossless compression algorithm comprises differential pulse code modulation.

29. (Previously presented) The method as recited in claim 27 further comprising constructing a second packet containing at least one encoded block and forming a packetized bitstream of encoded graphic data.

30. (Previously presented) The method as recited in claim 27 wherein each block comprises a pixel component.

31. (Canceled)

32. (Previously presented) The method as recited in claim 1 wherein a scan line comprises an HDTV line.

33. (Previously presented) A computer-readable medium bearing computer-readable instructions for carrying out the steps recited in claim 27.